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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/640,365	08/13/2003	Scott E. Trull	6217US	8440

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EXAMINER	
LAVINDER, JACK W	

ART UNIT	PAPER NUMBER
3677	

DATE MAILED: 12/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/640,365	TRULL, SCOTT E.	
	Examiner	Art Unit	
	Jack W. Lavinder	3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-19 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-19 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 13 August 2003 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 8/13/03.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on 8/13/03 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement has been considered by the examiner.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-9, 11-15 rejected under 35 U.S.C. 103(a) as being unpatentable over DE3232590A1 (Melang) in view of Chapman, 4,294,561.

Regarding claims 1, 11, 12, 13, Melang discloses a generally orthogonal connector block (figure 5) having

- a first major planar side (front of block)
- a second major planar side (back of block) spaced from and parallel to said first major planar side
- first (10 or any one of the through-holes labeled as 4, as shown in the figure), second (4, as shown in the figure) and third (small through-aperture in the upper left corner of the block) parallel through-apertures joining said first and second major planar sides and having first, second and third central axis
- a bottom side joining said first and second major planar sides

- a left side joining said first and second major sides and normal to said bottom side
- a right side parallel to said left side, said right side joining said first and second major sides and normal to said bottom side
- an upper side parallel to said bottom side, said upper side joining said first and second major sides
- a fourth through-aperture (larger through-aperture in upper portion of the right side of the block) through said block, said fourth aperture extending from said left side to said right side and intercepting said first (10) and second (4) through-apertures

Melang fails to disclose the following

- a first non-through-aperture on said upper side and intercepting said third through-aperture
- a second non-through aperture entering said block at an angle intermediate 0 degrees and 90 degrees from said first non-through-aperture

Chapman discloses

- a first non-through-aperture (aperture which receives the adjusting screw 5 in figure 1) on said upper side and intercepting said third through-aperture (4)
- a second non-through aperture (8) entering said block at an angle intermediate 0 degrees and 90 degrees (approximately 45 degrees) from said first non-through-aperture (5)

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have added the arrangement of the first and second non-through apertures of Chapman to the block of Melang in order to increase the versatility of the jointing block to allow more complex frame systems to be formed (column 4, lines 24-27 of Chapman discloses this motivation when adding bore 27).

Regarding claim 2, Melang discloses the first(10), second (4) and third (through-aperture in upper left corner)through apertures are parallel to one another.

Regarding claim 3, Melang discloses apertures having a squared cross-section, but fails to disclose the required round cross-section. Chapman discloses a connector block with through-apertures with a round cross-section. It would have been obvious to a person having ordinary skill in the art at the time of the invention to have modified Melang's squared cross-section through-apertures to have a round cross-section as taught by Chapman. This is considered to have been an obvious design choice based on the type of frame/connecting pieces that are being joined together by the connecting block, i.e., round in cross-section connecting pieces would require a round in cross-section through-aperture and a square in cross-section connecting pieces would require a square in cross-section through-aperture. Furthermore, it appears that either cross section would serve the same function of holding the frame/connecting pieces to the connecting block equally as well as the other.

Regarding claims 4 and 6, depending on which through-apertures you pick in the figure 5, Melang discloses first and second apertures having central axes equidistant

from the bottom side (same analysis applies to the second and third through-apertures being spaced from the left side).

Regarding claims 5 and 7, Melang and Chapman both fail to disclose the relationship between the aperture diameter and the minimum distance the aperture is spaced from the bottom or left side of the block. This relationship is a design effect variable that is dependent on the type of material/polymer the block is made from, i.e., the weaker the material, the larger the minimum distance must be to prevent the block from failing (cracking or breaking). It would have been obvious to a person having ordinary skill in the art to place the holes through the block at a sufficient minimum distance from the edge of the block in order to prevent the block from failing while holding the frame members.

Regarding claims 8 and 9, Melang fails to disclose a connector block made out of a polymer. Chapman discloses a block made of nylon (considered to be an organic polymer). The specification states

"Any polymeric material may be used which provides the requisite strength and rigidity, workability and life for the particular structure to be formed."

Therefore, it is concluded that the specification fails to disclose any criticality to the type of polymer used in forming the block. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to make Melang's wooden block out of nylon in order to reduce the costs of manufacturing the block and to improve the speed at which the blocks are made, i.e., injection molding is faster than cutting and assembling the wooden pieces that make up Melang's block.

Regarding claims 14 and 15, Melang fails to disclose lock-through drive holes for locking screws to lock the tubular members in place. Chapman as described above with reference to claim 1 discloses the use of locking screws (5) for holding the tubular members in place. It would have been obvious to a person having ordinary skill in the art at the time the invention was made to add locking screws and holes, as taught by Chapman, to all the outer through-apertures in Melang to increase the blocks ability to hold the members in position within the block.

Regarding claim 16, Melang fails to disclose an angular side. However, Chapman discloses an angular side (3) truncating the corner at an angle normal to the central axis of the second non-through-aperture, i.e., the aperture that receives adjusting screw 5. This is done to reduce the cost of manufacturing the block. Two savings occur when the corner of the block is truncated. First, there is a material savings, i.e., the piece of material cut off can be melted done and used to make more blocks. Two, the cost of providing a longer locking screw 5 is avoided. By truncating the corner, the length of screw needed to engage the member is reduced, i.e., a shorter screw can be used (again reducing the overall cost of the block). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to truncate the corners of Melang's block to be able to provide a locking screw to ensure retention of the connecting member in the block and to reduce the overall cost of manufacturing the block.

Regarding claim 17, Melang inherently discloses the use of tubular material, which is made out of rigid plastic piping. In the abstract, Melang discloses that the

connecting block can be used to make buildings or furniture. There are many types of furniture made from plastic or metal tubing, i.e., patio furniture or lawn chairs, which would meet the limitations of the claim. Furthermore, Chapman also discloses using rigid metal tubular members (column 4, lines 34-37).

Regarding claim 18, Melang discloses an articulate structure formed of a plurality of sections of tubular material rigidly conjoined by connector blocks (abstract discloses "the block forms a basic structure for all types of uses, both buildings and furniture." Furthermore, Chapman also discloses that the block is used for building lightweight frame structures (see the abstract and drawings).

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Melang and Chapman as applied to claim 1 above, and further in view of Finlayson, 6145226.

Regarding claim 10, Melang and Chapman both fail to disclose a connector block include a substance for resisting absorption of ultraviolet radiation. However, it is old and well known to add this substance to most plastics/polymers in order to prevent the plastic/polymer from becoming brittle when subjected to long term exposure to sunlight, as taught by Finlayson (column 5, lines 43-50). Therefore, it would have been obvious to a person having ordinary skill in the art at the time the invention was made to add ultraviolet radiation absorption resisting substance to the nylon material in Chapman to prevent the connector from cracking after long term exposure to sunlight. Thus, preventing the joint connecting block from failing when exposed to sunlight.

Regarding claim 19, Melang and Chapman both disclose using the frame structure for supporting rigid and semi rigid panels, i.e., room dividers, or for supporting glass shelving or for supporting building walls or floors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jack W. Lavinder whose telephone number is 703-308-3421. The examiner can normally be reached on Mon-Friday, 9-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Judy Swann can be reached on 703-306-4115. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jack W Lavinder
Primary Examiner
Art Unit 3677